

IN THE CLAIMS

Please add claims 7-9 as follows:

7. (New) A fuel cell system having the humidifier according to any one of claims 1 to 6.

8. (New) A humidification process utilizing a hollow fiber membrane module comprising a plurality of water-permeable hollow fiber membranes placed along the lengthwise direction of a housing accommodated within the housing, in which gases each having a different moisture content flow inside and outside said hollow fiber membranes to carry out moisture exchange whereby the dry air having a low moisture content is humidified, said hollow fiber membrane module having a bypass channel with a diameter longer than that of the hollow fiber membrane formed on an approximately central portion of the cross-lengthwise direction of said housing along the lengthwise direction of said housing of said hollow fiber membrane module,

said humidification process comprising:

introducing a part of one of said gases to flow in the bypass channel, while subjecting the remaining part to directly flow outside the hollow fiber membrane;

subsequently subjecting said gas introduced into the bypass channel to flow outside the hollow fiber membrane; and

carrying out a moisture exchange between said gas flowing outside the hollow fiber membrane and the gas flowing inside the hollow fiber membrane.

9. (New) A humidification process utilizing a hollow fiber membrane module comprising a plurality of water-permeable hollow fiber membranes placed along the lengthwise direction of a housing accommodated within the housing, in which gases each having a different moisture content flow inside and outside said hollow fiber membranes to carry out moisture exchange whereby the dry air having a low moisture content is humidified, said hollow fiber membrane module having a bypass channel with a diameter longer than that of the hollow fiber membrane formed on an approximately central portion of the cross-lengthwise direction of said housing along the lengthwise direction of said housing of said hollow fiber membrane module,

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cont.
said humidification process comprising:

introducing a whole of one of said gases to flow in the bypass channel;

subsequently subjecting said gas introduced into the bypass channel to flow outside the hollow fiber membrane; and

carrying out a moisture exchange between said gas flowing outside the hollow fiber membrane and the gas flowing inside the hollow fiber membrane.

Please amend claims 1, 2, 5 and 6 as follows. Pursuant to 37 C.F.R. § 1.121, as amended, a marked-up copy of the claim is attached to this Response showing the changes made therein.

1. (Amended) A humidifier having a plurality of water-permeable hollow fiber membranes placed along the lengthwise direction of a housing accommodated within the housing in which gases each having a different moisture content flow inside

and outside said hollow fiber membranes to carry out moisture exchange whereby dry air having a low moisture content is humidified, said humidifier comprising:

a bypass channel, in which the gas flowing outside the hollow fiber membrane, formed on an approximately central portion of the cross-lengthwise direction of said housing along the lengthwise direction of said housing,

said bypass channel having a diameter larger than that of said hollow fiber membrane, and

an inlet placed at one end side of said bypass channel which introduces the gas flowing outside the hollow fiber membrane into the housing;

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cont. a plurality of outlets placed along the lengthwise direction of said bypass channel over the entire length of the bypass channel which discharge the gas flowing outside the hollow fiber membrane formed on said bypass channel; and

a plurality of outlet ports formed in a circumferential direction on said housing at several intervals and placed opposite said inlet beyond the bypass channel, which discharges the gas which has flowed outside the hollow fiber membrane.

2. (Amended) The humidifier according to Claim 1, wherein a plurality of the outlets which discharge the gas flowing outside the hollow fiber membrane are formed on said bypass channel at several locations along the length of said bypass channel.
